

CLAIMS

1. A clamping mechanism of a molding machine, comprising:

a bed;

5 a stationary platen mounted on said bed, and carrying a stationary mold;

a guide bar arranged fixedly relative to said stationary platen, and defining a longitudinal guiding axis;

10 a first movable platen arranged movably relative to said stationary platen along said guiding axis, and carrying a movable mold;

a support structure interposed between said guide bar and said first movable platen, and movably supporting said first movable platen on said guide bar along said guiding axis;

a second movable platen separate from said first movable platen, and arranged movably relative to said stationary platen along said guiding axis;

20 a connecting member connecting said first movable platen and said second movable platen to each other; and

a drive section for applying a drive force to said second movable platen, to move said first movable platen and said second movable platen along said guiding axis.

2. A clamping mechanism, as set forth in claim 1, wherein said support structure comprises a spline engaging surface provided on said guide bar and a ball spline nut provided in said first movable platen; said ball spline nut being operatively engagable with said spline engaging surface.

3. A clamping mechanism, as set forth in claim 2, wherein said second movable platen includes a through-hole receiving said guide bar without engaging with said spline engaging surface.

4. A clamping mechanism, as set forth in claim 2,

further comprising an end frame mounted on said bed at a location opposite to said stationary platen about said first and second movable platens; wherein said guide bar comprises a tie bar tying said stationary platen to said end frame.

5           5.    A clamping mechanism, as set forth in claim 2, further comprising an end frame mounted on said bed at a location opposite to said stationary platen about said first and second movable platens and a tie bar, separate  
10   from said guide bar, defining a second longitudinal guiding axis generally parallel to said guiding axis of said guide bar; said tie bar tying said stationary platen to said end frame.

          6.    A clamping mechanism, as set forth in claim 5,  
15   wherein said first movable platen includes a first through-hole independent of said ball spline nut and extending along said second guiding axis; wherein said second movable platen includes a second through-hole aligned along said second guiding axis with said first  
20   through-hole; and wherein said tie bar is received in said first and second through-holes.

          7.    A clamping mechanism, as set forth in claim 1, wherein said connecting member connects said first and second movable platens in a manner shiftable along said  
25   guiding axis relative to each other.

          8.    A clamping mechanism, as set forth in claim 7, further comprising a biasing member interposed between said first and second movable platens, said biasing member elastically biasing said first and second movable  
30   platens away from each other along said guiding axis.

          9.    A clamping mechanism, as set forth in claim 7, further comprising a biasing member interposed between said first and second movable platens, said biasing member elastically biasing said first and second movable  
35   platens toward each other along said guiding axis.

          10.   A clamping mechanism, as set forth in claim 1, wherein said first movable platen is made from a material

having a rigidity higher than that of said second movable platen.